

COURSE GUIDE – short form

Academic year 2017-2018

Course name ¹	Properties and Materials Selection					Course code	4SM02DID			
Course type ²	DID	Category ³	DI	Year of study	4	Semester	8	Number of credit points	4	

Faculty	Materials Science and Engineering	Number of teaching and learning hours ⁴					
Field	Materials Science	Total	L	T	LB	P	IS
Specialization	Materials Science	96	14	-	28	-	54

Pre-requisites from the curriculum ⁵	Compulsory	-
	Recommended	-

General objective ⁶	Provides knowledge on the scientific choice of metallic materials and their design based on the properties, structure, cost price and size of production in the construction of machinery, machinery, load-bearing structures, vessels etc.
Specific objectives ⁷	The combination of the knowledge, principles, methods, stages and criteria for the choice of metallic materials and the appropriate identification and use of materials engineering theories, theories and methods based on the knowledge of the fundamental sciences. Knowledge of the steps and criteria of material selection.
Course description ⁸	<ol style="list-style-type: none"> 1. Introduction, history, future. 2. Correspondence of metallic materials. 3. Selection criteria of metallic materials <ol style="list-style-type: none"> 3.1. Selection criteria of metallic materials for the machine industry. 3.2. Selection criteria of metallic materials for metallic construction: bearing structures, pressure vessels, ships, rolling stock etc. 3.3. Selection criteria of metallic materials for the chemical, food and medical industries. 3.4. Selection criteria of metallic materials for electrical and electronics industries. 3.5. Selection criteria of metallic materials for aerospace and aeronautical industries. 4. The selection and use of metallic materials for metallic constructions. 5. The selection and use of metallic materials for mechanical constructions. 6. Materials selection for tools. 7. Metallic materials design for different purposes.

Assessment		Schedule ⁹	Percentage of the final grade (minimum grade) ¹⁰
Activity during laboratory works			50 % (minimum 5)
Final assessment	Final assessment form ¹¹	Exam	50 % (minimum 5)
	Exam.period		
Examination procedures and conditions: Oral assessment subject 1: theoretical subject, open to thematic development ; percent of the final grade - 50%; subject 2: theoretical subject, open to thematic development ; percent of the final grade - 50%.			

Course organizer	Assoc. Prof. PhD. Eng. Adrian Alexandru
Teaching assistants	Assoc. Prof. PhD. Eng. Adrian Alexandru

¹Course name from the curriculum

² DF – fundamental, DID – in the field, DS – specialty, DC – complementary (from the curriculum)

³ DI – imposed, DO – optional, DL – facultative (from the curriculum)

⁴ Points 3.8, 3.5, 3.6a,b,c, 3.7 from the Course guide – extended form (L-lecture, T-tutorial, LB-laboratory works, P-project, IS-individual study)

⁵ According to 4.1 – Pre-requisites - from the Course guide – extended form

⁶ According to 7.1 from the Course guide – extended form

⁷ According to 7.2 from the Course guide – extended form

⁸ Short description of the course, according to point 8 from the Course guide – extended form

⁹ For continuous assessment: weeks 1 – 14, for final assessment – colloquium: week 14, for final assessment-exam: exam period

¹⁰ A minimum grade might be imposed for some assessment stages

¹¹ Exam or colloquium